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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,609	02/20/2004	David Voeller	HE 8571 UI	1618
1688	7590	12/22/2005	EXAMINER	
POLSTER, LIEDER, WOODRUFF & LUCCHESI 12412 POWERSCOURT DRIVE SUITE 200 ST. LOUIS, MO 63131-3615			RATCLIFFE, LUKE D	
			ART UNIT	PAPER NUMBER
			3662	

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,609

Applicant(s)

VOELLER ET AL.

Examiner

Luke D. Ratcliffe

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2005.
- 2a) ☒ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 3,15,25,27 and 31-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-14,16-24,26,28-30 and 36-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

To clarify the claims that apply to the different species that the examiner has deemed proper the examiner defines the generic claims to be 1,4-13, 16-22, 24, 28-30, and 41-44. The claims that apply only to the wheel balance system are claims 2, 14, 23, 25, 36-39,45, and 46. The claims that apply only to the tire changing system are claims 3, 15, 26, 27, and 31-35.

Applicant's election with traverse of the species including a vehicle wheel balancing system referring to figure 5 in the reply filed on 11/9/05 is acknowledged. The traversal is on the ground(s) that all features described in the claims are deemed to be usable in both a wheel balancing system and a wheel changing system as described in the specification. This is not found persuasive because claims 3, 15, 26, and 31-35 are drawn to features that are applicable to only a wheel changing system.

The requirement is still deemed proper and is therefore made FINAL.

Claims 3, 15, 26, and 31-35 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/9/05.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

Art Unit: 3662

requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-8, 14, 16, 19, 21, 23, and 28-30 are rejected under 35

U.S.C. 102(b) as being anticipated by Conheady (20020018218).

Referring to **claim 1**, Conheady shows a vehicle wheel system including an imaging sensor (figure 1 Ref 15 and paragraph 30), wherein the central processing unit is configured to receive at least the distance information from the image sensor to facilitate one or more vehicle wheel service procedures (paragraph 6-20 and paragraph 30).

Referring to **claim 2**, Conheady shows a vehicle wheel service system wherein the system is a wheel balancing system (paragraph 4).

Referring to **claim 4**, Conheady shows a vehicle wheel service system wherein the distance information is represented of the distance between the image sensor assembly and the portion of the vehicle wheel assembly. This is an inherent feature of a distance finding apparatus in this application.

Art Unit: 3662

Referring to **claim 5**, Conheady shows a vehicle wheel service system wherein each of the optical images consists of two-dimensional array of pixel elements (paragraph 30).

Referring to **claim 6**, Conheady shows a vehicle wheel service system wherein the image sensor is further configured to acquire distance information associated with each of one or more acquired optical images (paragraphs 6-20 and 30).

Referring to **claim 7**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to identify a surface profile of a vehicle wheel rim (paragraph 20).

Referring to **claim 8**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to calculate one or more parameters of the vehicle wheel assembly (paragraph 6).

Referring to **claim 14**, Conheady shows a vehicle wheel service system wherein the central processing system unit is further configured to utilize the distance information to identify a miss-centering of the vehicle wheel rim on the rotation support structure (paragraph 4).

Referring to **claim 16**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to identify one or more features of the vehicle wheel assembly (paragraph 4-7).

Referring to **claim 19**, Conheady shows a vehicle wheel service system wherein the one or more figures includes a wheel rim edge profile (paragraph 29).

Referring to **claim 21**, Conheady shows a vehicle wheel service system wherein the one or more features includes a tire defect (paragraph 4).

Referring to **claim 23**, Conheady shows a vehicle wheel service system wherein the one or more features includes an installed imbalance correction weight. It is inherent that a wheel balancing system includes an installed imbalance correction weight.

Referring to **claim 28**, Conheady shows a vehicle wheel service system wherein the image sensor assembly is configured for movement to later a field of view associated with the image sensor assembly (paragraph 6-20).

Referring to **claim 29**, Conheady shows a vehicle wheel service system wherein the image sensor assembly is remotely disposed from the rotation support structure (figure 1).

Referring to **claim 30**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize said distance information to alter a configuration of one or more components of the improved vehicle wheel service system (paragraph 6-20).

Claims 36-39, and 41-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Downing (5054918).

Referring to **claim 36**, Downing shows a wheel parameter measurement apparatus for a dynamic wheel balancer including an optical energy means (figure 4 and 5), an optical energy means (figure 4 and 5), and a means for receiving the signals provided by the optical energy (column 4 lines 30-60).

Referring to **claim 44**, Downing shows a method for measuring one or more features of a vehicle wheel assembly consisting of at least a vehicle wheel rim wherein optical energy is provided (figure 4 and 5), detecting optical energy (figures 4 and 5), generating two-dimensional images of the detected energy (column 4 lines 30-60), and processing the detected optical energy to extract data associated with at least one feature of the vehicle wheel assembly (figure 11 and figure 12).

Referring to **claims 37 and 41**, Downing shows a wheel parameter measurement apparatus for a dynamic wheel balancer wherein the extracted data identifies a feature location on the mounted wheel assembly (column 3 lines 49-65).

Referring to **claims 38 and 42**, Downing shows a wheel parameter measurement apparatus for a dynamic wheel balancer wherein the extracted data identifies a feature dimension on the mounted wheel assembly (column 4).

Referring to **claims 39 and 43**, Downing shows a wheel parameter measurement apparatus for a dynamic wheel balancer wherein the extracted data identifies a configuration of the at least one feature on the mount wheel assembly (column 4 lines 5-30).

Referring to **claim 45**, Downing shows a method for selecting imbalance correction weight parameters in a vehicle wheel balancing system providing, within the field of view of the imaging sensor assembly, and indicator at a location on a vehicle wheel rim of the vehicle wheel assembly at which at least one imbalance correction weight is to be placed (column 3 lines 10-50), acquiring at least one image of the indicator (figures 4 and 5), identifying the location on the wheel rim from the position of

Art Unit: 3662

the indicator within at least one image (column 3 lines 10-50), and calculating one or more imbalance correction weight parameters corresponding to at least one imbalance correction weight (column 3 and 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conheady (20020018218) in view of Eck (4337581).

Referring to claims 9 and 10, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to calculate one or more parameters of the vehicle wheel assembly (paragraph 6). Conheady however does not show those parameters to be tire bead seat surfaces of the vehicle wheel rim and lateral runout of the vehicle wheel rim.

Eck shows a targeting structure for use with an alignment apparatus that can determine tire bead seat surfaces of the vehicle wheel rim and lateral runout of the vehicle wheel rim (column 8 lines 45-65). It would have been obvious to modify Conheady to include the alignment parameters discussed in Eck because these are common alignment parameters to be used in a vehicle wheel service system and bring no new or unexpected results.

Art Unit: 3662

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conheady (20020018218) in view of Nower (5684578).

Referring to **claims 11 and 12**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to calculate one or more parameters of the vehicle wheel assembly (paragraph 6). However Conheady does not specifically show a central processing unit that is configured to store one or more calculated parameters for subsequent retrieval however it is an obvious feature for a vehicle wheel service system.

Nower shows a central processing unit that is configured to store one or more calculated parameters for subsequent retrieval (column 8 and 9). It would have been obvious to modify Conheady to include the memory device taught by Nower because it is common for this type of system to have memory to store the parameters for use in another calculation and has no new or unexpected results.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conheady (20020018218) in view of Casby (6085428).

Referring to **claim 13**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to calculate one or more parameters of the vehicle wheel assembly (paragraph 6). However Conheady does not show a central processing unit that is configured to communicate one or more calculated parameters to a second vehicle wheel service system.

Casby shows a central processing unit that is configured to communicate one or more calculated parameters to a second vehicle wheel service system (column 4 lines 42-67). It would have been obvious to modify Conheady with the communication capability taught by Casby because this is necessary for a service system that has multiple components.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conheady (20020018218) in view of Ripley (4723445).

Referring to **claim 17 and 18**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to identify one or more features of the vehicle wheel assembly (paragraph 4-7). However Conheady does not show features to be spoke configuration or spoke profiles.

Ripley shows features to be spoke configuration or spoke profiles (column 2 lines 27-46). It would have been obvious to modify Conheady to include features to be spoke configuration or spoke profiles because these features are necessary when determining the balance of a wheel.

Claims 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conheady (20020018218) in view of Downing (5054918).

Referring to **claims 20 and 22**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to identify one or more features of the vehicle wheel assembly (paragraph 4-

Art Unit: 3662

7). However Conheady does not show features to be valve stem location and tire tread depth.

Downing shows features to be valve stem location (column 6 lines 12 –33) and tire tread depth (column 5 lines 2-25). It would have been obvious to modify Conheady to include features taught by Downing being valve stem location and tire tread depth because these features are necessary when determining the balance of a wheel.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conheady (20020018218) in view of Lovalenti (4584469).

Referring to **claim 24**, Conheady shows a vehicle wheel service system wherein the central processing unit is further configured to utilize the distance information to identify one or more features of the vehicle wheel assembly (paragraph 4-7). However Conheady does not show one of the features to be a wheel rim surface defect.

Lovalenti shows one of the features to be a wheel rim surface defect (column 1 lines 30-65). It would have been obvious to modify Conheady to include the features taught by Lovalenti because this feature is necessary when determining the balance of a wheel.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conheady (20020018218) in view of Carter (20020000121).

Referring to **claim 25**, Conheady shows a vehicle wheel system including an imaging sensor (figure 1 Ref 15 and paragraph 30), wherein the central processing unit is configured to receive at least the distance information from the image sensor to facilitate one or more vehicle wheel service procedures (paragraph 6-20 and paragraph

Art Unit: 3662

30). Conheady however doesn't specifically show where to place one or more correction weights.

Carter does show where to place one or more correction weights (paragraph 4). It would have been obvious to modify Conheady to include the ability to show the placement of the correction weights as taught by Carter because this is a common feature of a wheel balance system.

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Downing (5054918) in view of Carter (20020000121).

Downing shows an imbalance correction weight parameter in a vehicle wheel balancing system include providing, within the field of view of the imaging sensor assembly, and indicator at an location on a vehicle wheel rim of the vehicle wheel assembly, and acquiring at least one image of the indicator with the imaging sensor assembly (figure 4 and 5 and column 4 lines 30-60). However Downing does not show providing a representation of an indicator relative to at least one imbalance correction placement location.

Carter shows providing a representation of an indicator relative to at least one imbalance correction placement location (paragraph 13). It would have been obvious to modify Downing to include the indicator relative to at least one imbalance correction placement location because this a common use for an indicator in a vehicle wheel imbalance correction system and has no new or unexpected results.

Art Unit: 3662

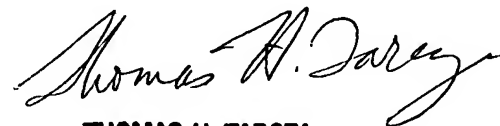
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke D. Ratcliffe whose telephone number is 571-272-3110. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LDR

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